

DESCRIPTIONS OF FOUR NEW SPECIES AND TWO VARIETIES OF EUCALYPTS.

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[Read 27th April, 1938.]

EUCALYPTUS ERYTHRANDRA Blakely and Steedman, n. sp. "Rosebud Gum."

E. angulosa Schauer, var. *robusta* Gardner, *Journ. Roy. Soc. W.A.*, xix, 1932-33, 88.

Frutex 4-6 pedes altus; folia alterna angusto- vel lato-lanceolata, petiolata, crassa, coriacea, 8-13 cm. longa, 2-5 cm. lata; umbellae 3-5-florae; pedunculi late ligulati, erecti vel recurvi, 15-20 mm. longi, 5-9 mm. vertice lati; gemmae sessiles, subcylindroideae, rostratae, rubrae, 25-30 mm. longae, 15 mm. latae; calyx obpyramidalis, quadrangulatus, cujus anguli interdum in alas angustas expansi; operculum conico-rostratum uni- vel bi-costatum, 10-15 mm. longum; filamenta creberrima, rosea vel rubra, microscopice glandularia; antherae oblongae, rimis longitudinaliter dehiscentes; fructus cylindrici vel campanulati, 4-angulati vel 4-alati, 25 mm. longi, 18-20 mm. lati; capsula alte adnata, 4-6-locularis; valvae lignae interdum orificium latum aequantes.

A shrub 4 to 6 feet high; leaves alternate, narrow to broadly lanceolate, petiolate, thick, coriaceous, 8 to 13 cm. long, 2 to 5 cm. broad, venation distinct, the lateral veins numerous, diverging at an angle of 40° to 50° from the midrib, the intramarginal vein distant from the edge. Umbels axillary, 3-5-flowered; peduncles broadly ligulate, erect or recurved, 15-20 mm. long, 5-9 mm. broad at the top; buds sessile, subcylindroid, rostrate, pink or red, 25-30 mm. long, 15 mm. broad; calyx obpyramidal, 4-angled, the angles sometimes expanded into narrow wings, minutely rugulose between the wings, the calycine rim exceeding the broad staminal ring; operculum conical-rostrate, with one or two ribs, and faintly rugulose, thin, 10-15 mm. long, the short beak subcompressed; staminal ring broad; filaments very numerous, pink or red, minutely glandular; anthers oblong, opening in longitudinal slits. Fruit cylindrical to campanulate, sometimes unequally 4-angled or 4-winged, the tips of the wings terminating in four small teeth on the calycine rim, 25 mm. long, 18-20 mm. broad, the disc forming a rather broad annulus inside the thin calycine ring and partly extending over the 4-6-celled deeply adnate capsule, the tips of the strong valves sometimes flush with the somewhat wide orifice.

W. Aust.—Kundip, near Ravensthorpe, in damp sandy soil (H. Steedman, October, 1930). Its position is near *E. tetraptera*, from which it differs in the leaves, multiflowered umbels, and in the differently shaped buds and fruits. The glandular filaments and anthers, however, are somewhat similar to those of its ally. Both species grow in the same neighbourhood, but *E. tetraptera* favours rocky situations, while *E. erythrandra* grows in wet or damp sandy soil. It is a very ornamental species with attractive rose-coloured buds and red flowers, the latter being at their best about October and November, and are excellent for

cutting. It should be of special interest to apiarists, as it is of small size, with moderately large flowers containing numerous fertile stamens, a very deep nectary, and yields pollen and nectar in abundance.

E. GONIOCALYX F.V.M., var. *PARVIFLORA* Blakely and McKie, n. var. "Small-fruited Mountain Gum."

Ab *E. goniocalyce* typica gemmis minoribus, fructibus minoribus, campanulatis, valvis plus minusve exsertis separanda.

A tree 40-80 feet high (about 12-24 m.), with rough bark for a few feet at butt, smooth, close dirty-white above. Mature leaves falcate-lanceolate, acuminate, 12-23 × 1.5-2 cm. Umbels 3-7-flowered; buds shortly pedicellate, cylindroid, acute, 7 × 3 mm., the conical operculum as long as the campanulate calyx. Fruit campanulate, shortly pedicellate, 4-6 × 5-6 mm., disc small, forming a thickened annulus above the calycine ring, valves usually three, when mature exsert and spreading, leaving a wide orifice.

N.S.W.—"About two miles from Hanging Rock, four miles from Nundle; steep mountain side; some trees 70-80 feet high, perhaps more. Sedimentary rock formation" (Rev. E. N. McKie, B83, 28/10/1930). "Tree 40-50 feet high, gum-barked, butt rough-barked. Clinging to side of gorge", Wollomombi Falls (Rev. E. N. McKie, B382, 2/1935).

It differs from the typical form in the smaller buds and smaller campanulate fruits, with more or less exsert valves. It resists a fair amount of cold and should be useful for mountain forestry in fairly cold regions. Flowers September-November.

E. PAUCIFLORA Sieb., var. *DENSIFLORA* Blakely and McKie, n. var. "Multiflowered Cabbage Gum."

Haec varietas notabilis ab *E. pauciflora*, foliis tenuibus, umbellis multifloris, gemmis minoribus diversiformibus, fructibus minoribus et tenuioribus distinguenda.

Leaves lanceolate, thinly coriaceous, up to 11 cm. long, 1.5-3 cm. broad. Umbels 12-30-flowered; peduncles slender, 5-10 mm. long; buds pedicellate, pyriform, apiculate, 5 × 4 mm., the operculum hemispherical, apiculate or pileiform, shorter than the obconic calyx; pedicels slender, 2-3 mm. long. Fruit shortly pedicellate, pyriform, truncate, somewhat thin, 4-celled, valves enclosed, 9 × 8 mm.

N.S.W.—T. F. Grills' paddock, 17 miles east of Guyra (Rev. E. N. McKie, 23/12/34). A very marked variety differing from the common form in the thin leaves, multiflowered umbels, smaller and differently shaped buds, and in the smaller and thinner fruits. A useful variety for beekeepers in cold districts. Flowers January-February.

EUCALYPTUS CHRYSANTHA Blakely and Steedman, n. sp. "Golden Mallee."

E. scputeralis F.V.M. var. *robusta* Gardner, *Journ. Royal Soc. W.A.*, xix, 1932-33, 88.

Frutex Mallee erectus, 8-10 pedes (2.4-3 m.) altus, ramis rigidis, angularibus; folia alterna, oblonga, lanceolata vel falcato-lanceolata, erecta, atroviridia, 5-6 cm. longa, 1-2 cm. lata; umbellae axillares, 3-6-florae; pedunculi elongati, ancipites, erecti, rigidi, 2.5-4.5 cm. longi, 4-5 mm. lati; gemmae subcylindroideae, insigniter pedicellatae, rugosae, 17 mm. longae, 10-12 mm. diametro; calycis tubus infundibuliformis, operculum acute conicum, crassum, 9-10 mm. longum; filamenta creberrima, flava; antherae angustae, cordatae, versatiles, rimis longis oblique aperientes; fructus ovoidei vel cylindroideo-urceolati, truncati, crassi, lignei, 22-27 mm. longi, 15-20 mm. diametro; discus circum orificium latum angusto annulo praeditus, capsula quadrilocularis alte inclusa.

An erect Mallee, 8 to 10 feet in height, with rigid angular branches. Leaves alternate, oblong, lanceolate to falcate-lanceolate, erect, firm and rigid, abruptly acute to shortly acuminate, tapering at the base into compressed petioles 15 to 20 mm. long, dark green on both surfaces, 5-10 cm. long, 1-2 cm. broad, venation visible, the lateral veins slightly irregular, diverging at an angle of 40-50° from the conspicuous midrib, the intramarginal vein somewhat distant from the thick nerve-like, subrevolute margin. Umbels axillary, 3-6-flowered; peduncles elongated, ancipitous, erect or spreading, rigid, 2.5-4.5 cm. long, 4-5 mm. wide. Buds tip-cat shaped, minutely rugose, 17 mm. long, 10-12 mm. in diameter; calyx-tube funnel-shaped, gradually tapering into the long angular pedicels, the operculum acutely conical, moderately thick and firm, 9-10 mm. long; filaments very numerous, white to light yellow; anthers narrow, cordate, versatile, opening obliquely in long slits, with a large terminal dorsal gland. Fruit ovoid to cylindroid-urceolate, truncate, thick and woody, slightly constricted at the orifice, 22-27 mm. long, 15-20 mm. in diameter, the disc forming a sharp narrow annulus around the broad orifice and increasing in thickness and obliquity internally, and partly concealing the deeply enclosed 4-celled capsule.

W. Aust.—Mount Bland, Eyre Range (H. Steedman, November, 1930 and 1932), the type. It is allied to *E. sepulcralis* F.v.M., from which it differs in the Mallee habit, broader and more coarsely veined green leaves, non-glaucous buds, and fruits, erect or spreading rigid umbels, ancipitous rigid peduncles, larger and differently shaped buds, robust pedicels, longer and thicker calyx-tube and operculum, and differently shaped fruits with a broad orifice. In fact it differs from its ally in every character except the filaments and anthers. It is a very handsome dwarf species; the yellow filaments are a pleasing contrast against the dark green foliage. It is recommended for horticultural purposes in temperate and subtropical localities. It blooms about November and the large flowers are heavily laden with nectar and pollen.

EUCALYPTUS MICHAELIANA Blakely, n. sp. "Brittle Gum."

Arbor mediocris, cortice levi, deciduo, ligno rufo; folia matura, alterna, petiolata, lanceolata vel falcato-lanceolata, acuminata, dilute viridia, 10-18 cm. longa, 2-3.5 cm. lata; foliorum venatio subtilissima, subobscura, venae laterales haud numerosae, distantes, incompositae, a costa media prominente angulo 40-45 graduum divergentes, vena intramarginalis a margine crasso remota. Inflorescentia terminalis, breviter paniculata, umbellis 3-6-floris; gemmae brevipedicellatae, conicae, adhuc statu maturo non visae; fructus cupulares vel campanulati, glabri, breviter pedicellati, 3-4 mm. longi, 4-5 mm. lati, quisque cum disco parvo annulari et 3-4 valvis minutis inclusis.

Tree of average size, irregular trunk, with a smooth deciduous bark somewhat similar to the bark of *E. maculata*. Timber red and brittle (Campbell). Mature leaves alternate, petiolate, lanceolate to falcate-lanceolate, acuminate, pale green on both surfaces, drying a pale grey colour, 10-18 cm. long, 2-3.5 cm. broad, the venation very fine, not prominent, except the midrib, which is conspicuous on both surfaces, but more prominent on the lower, the lateral veins not numerous, rather distant and irregular, diverging at an angle of 40-45° from the midrib, the secondary veins openly reticulate; intramarginal vein undulate, remote from the thickened nerve-like margin; petioles compressed and sometimes twisted, 1.5-2 cm. long. Inflorescence at first terminal, infraterminal in fruit, shortly paniculate to corymbose, the main axis very short and stout. Umbels 3-6-flowered, the peduncles compressed, angular, 5 mm. long; buds shortly pedicellate, conical, but not seen

in a mature state; anthers not seen. Fruit cupular to campanulate, smooth, shortly pedicellate, $3-4 \times 4-5$ mm., with a small firm annular disc slightly exceeding the calycine ring, and 3-4 very small enclosed valves; seeds brown, minutely fimbriate and slightly costate, less than 2 mm. long and broad.

N.S.W.—At Hillgrove and Enmore (J. F. Campbell, March, 1907), the type. "Tree with smooth bark from the ground. The general appearance of the crown of the tree is similar to Spotted Gum. Height to 40 feet, and 2 feet in diameter, b.h.; tree of poor form, occurrence not common. Elevation about 4,000 feet; formation shale, Enmore State Forest No. 330, 26 miles from Armidale" (F. M. Bailey, No. 22, 11/4/1935). Q'land: "A tall, clean-limbed Eucalypt, height up to 70-80 feet. In the distance the trunk resembles *E. propinqua* or *E. major*, with a little roughish bark a few feet from base, and then smooth and pearly grey; timber reddish. Mount Ballow" (Rev. N. Michael. No. 2662. 19/7/1937).

The subpaniculate inflorescence and shape of the fruit and seeds, together with the venation, point to it being a *Macrantherous* species, and it is placed tentatively in Series *Paniculatae* next to *E. intertexta* on the above evidence. Named in honour of the Rev. Canon N. Michael, Church of England Minister, Boonah, who has taken a life-long interest in the flora of Queensland.

EUCALYPTUS RHODANTHA Blakely and Steedman, n. sp. "Rose Gum."

Frutex valde glaucus, 2-2.5 m. (6-8 pedes) altus, ramulus divergentibus. Folia matura opposita, sessilia vel amplexicaulia, orbicularia, interdum acute cordata, coriacea, 5-10 cm. longa, 4-9 cm. lata. Flores singulares, ad pedunculos graciles, 1-3 cm. longos, deflexos affixi; gemmae pedicellatae, ovoideo-turbinatae, rostratae; operculum late conicum, acuminato-rostratum, costellatum, 10-15 mm. longum, 15-18 mm. basi latum; filamenta rubra; antherae versatiles, obovatae vel subpanduriformes, poris latis lateralibus aperientes. Fructus pedicellati, lignei, turbinati vel subcampanulati, bicostati nec non irregulariter costellati, 15×20 mm.; discus unicus aliquantum semiconicus ad basin valvarum lignearum exsertarum circumfusus.

A very glaucous shrub 6-8 feet high, branching from the ground and spreading out to 10 feet at centre; stem at ground-level 6-8 inches diameter, the main branches 2-4 inches diameter; bark smooth and glaucous. Mature leaves opposite, sessile to amplexicaul, orbicular to very acutely cordate, sometimes tapering into long acuminate points, glaucous on both surfaces, moderately thick, coriaceous, 5-10 cm. long, 4-9 cm. broad, the venation moderately distinct, lateral veins very thin, irregular and numerous, diverging at an angle of $50-65^\circ$ from the prominent midrib, the intramarginal vein very fine and undulate, 2-4 mm. from the edge. Flowers solitary, on slender slightly deflexed, bicostate peduncles, 2-3 cm. long; buds pedicellate, ovoid-turbinate, rostrate, including the compressed pedicels, $4-5 \times 2-2.5$ cm.; calyx-tube broadly turbinate, bicostate or sub-dipterous, costellate between the wings, the operculum broadly conical and acuminate-rostrate, costellate, of a lesser diameter than the calyx-tube, 10-15 mm. long, 15-18 mm. broad at the base; filaments very numerous, in several rows, subcompressed, pink to dark rosy-red or crimson; anthers yellow, versatile, obovate to subpanduriform, opening in broad lateral pores, the connective with a very small semi-terminal dorsal gland. Fruit pedicellate, ligneous, broadly turbinate to subcampanulate, bicostate and irregularly costellate, 15×20 mm. or larger, the prominent ribs of the pedicel passing into the calycine portion and forming more or less conspicuous wings; disc single, somewhat semi-conical, fused to the base of the ligneous exserted valves, and paler than the thin calycine ring. Fertile seeds dark brown to black,

shell-like, nearly orbicular, with 3-4 radiating ribs extending into the wing-like expansion, 5×5 mm.; sterile seeds linear, angular, reddish-brown, 5-7 mm. long.

W. Aust.—“Victoria Plains, near Gunyidi, in a gravelly sand ridge with a friable subsoil” (H. Steedman, December, 1934). It is somewhat similar to *E. macrocarpa* Hook., in the colour of the foliage and flowers, but its habit of growth is quite different, being more bushy and compact, while the leaves are orbicular to cordate-acuminate, and not oblong-lanceolate like those of its ally. The long peduncles and winged pedicels, together with the costellate buds, acuminate-rostrate operculum, thinner calyx-tube, smaller and differently shaped fruits, also differentiate it from *E. macrocarpa*; the two are not associated in the field. It is of good form, and its frosted or silvery foliage and large rose-coloured flowers can hardly be surpassed for horticultural purposes, especially in temperate localities. It flowers almost every month of the year, but more prolifically from January to March, and yields both pollen and nectar freely.
